

NON-PUBLIC?: N
ACCESSION #: 8806270323
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Plant Hatch, Unit 1 PAGE: 1 of 7

DOCKET NUMBER: 05000321

TITLE: Lack of Procedural Clarification Results in Reactor Scram
EVENT DATE: 05/20/88 LER #: 88-009-00 REPORT DATE: 06/20/88

OPERATING MODE: 1 POWER LEVEL: 020

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR
SECTION
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: Steven B. Tipps, Nuclear Safety and Compliance Manager, Hatch
TELEPHONE #: 912-367-7851

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT: On 5/20/88 at approximately 0216 CDT, Unit 1 was in the run mode at an approximate power of 488 MWt (approximately 20 percent of rated thermal power). At that time, a reactor scram occurred when three of the four Main Steam Isolation Valves (MSIVs EIIS Code SB) were less than 90 percent open. This was an unanticipated actuation of the Reactor Protection System (RPS EIIS Code JC).

The root cause of this event is procedure deficiency. A start up procedure did not provide sufficient guidance relative to exchanging instrument air and nitrogen systems. Both systems supply motive power to the MSIVs.

Corrective actions for this event included: 1) restoring nitrogen to the MSIVs, 2) temporarily revising plant procedures, and 3) scheduling permanent revisions to plant procedures.

(End of Abstract)

TEXT: PAGE: 2 of 7

A. REQUIREMENT FOR THE REPORT:

This report is required by 10 CFR 50.73 (a)(2)(iv) because of the unanticipated actuation of the Reactor Protection System (RPS-EIIS

Code JC) and the Primary Containment Isolation System (PCIS-EIIS Code JM).

B. UNIT(s) STATUS AT TIME OF EVENT:

1. Power Level/Operating Mode:

Unit One was operating at 488 MWt (approximately 20% reactor power) with the main turbine in chest warming following a 30 day cold shutdown period. The licensed personnel were performing the steps in plant procedure 34GO-OPS-001-1S, "Plant Startup" for placing the main turbine on line. The reactor mode switch was in the run position.

The Feedwater System was configured such that there was one condensate pump (EIIS Code SJ) and one Reactor Feed Pump (EIIS Code SJ) in service. This is a normal plant configuration.

2. Inoperable Equipment:

There was no inoperable equipment that contributed to this event.

C. DESCRIPTION OF EVENT:

1. Event:

On 5/20/88 at approximately 0024 CDT, plant operations personnel were performing system restoration on clearance 1-88-337. The clearance restoration was intended to restore nitrogen as the motive force to all drywell pneumatic equipment. The clearance had been taken out on the drywell pneumatic supply to ensure the nitrogen supply was isolated from the drywell while personnel access was necessary.

TEXT: PAGE: 3 of 7

On 5/20/88 at approximately 0216 CDT, the Unit 1 reactor scrammed as the result of an RPS trip caused by a Main Steam Line Isolation Valves (MSIV) (EIIS Code SB) not full open trip signal. The "B" reactor feed pump (the only feed pump in operation) increased in speed in an attempt to compensate for the initial reactor level decrease. However, since only one condensate pump and one condensate booster pump were in service, the increased speed on "B" reactor feed pump resulted in a "B" reactor feed pump low suction pressure trip.

As a result of the RFP trip, reactor water level decreased to a level between 11.4 inches and 12.6 inches above instrument zero. This was the lowest level recorded in this event and it is approximately 176 inches above the Top of Active Fuel (TAF). This decrease in reactor level resulted in a "A1" and "B1" RPS channel trip and an automatic closure of the open inboard PCIS valve group 2.

These actuations were anticipated, and occurred per design. Plant operations personnel controlled reactor pressure in this event by using the main Turbine Bypass Valves (TBV EHS code SO). The TBV kept reactor pressure at approximately 920 psig during the initial transient.

Licensed personnel used the control rod drive (CRD EHS Code AA) to restore reactor water level to a normal level of approximately 37 inches above instrument zero.

At approximately 0216 CDT, plant operations personnel initiated Deficiency Card (DC) 1-88-2192 for the Unit One Scram from MSIV's not fully open, as required by the plant's administrative control procedures.

At approximately 0239 the plant was in a stable condition and the scram signal was reset.

At approximately 0240 CDT licensed personnel notified the NRC of the reactor scram in accordance with 10CFR50.72.

TEXT: PAGE: 4 of 7

Licensed personnel, after bringing the reactor to a stable condition, reviewed the reactor scram to determine what caused the MSIVs to drift to the closed position.

2. Other Systems Affected:

The only systems affected by this event were the RPS and the PCIS Valve Group 2. The RPS functions to initiate protective actions to prevent damage to the principal safety barriers. The PCIS isolates the primary containment and prevents the release of radioactive materials.

3. Method of Discovery:

Licensed operations personnel discovered the full logic actuations

of the RPS and the resulting full reactor scram by observation of main control room indications.

4. Operator Actions:

Licensed operations personnel performed the following actions:

1. Responded to the automatic scram in accordance with emergency operating procedures and ensured that the plant was in a stable configuration.
2. Processed the deficiency card as required by the plant's administrative control procedures.
3. Notified the NRC of the event per the requirements of 10CFR50.72.

5. Auto/Manual Safety System Response:

The only safety systems that actuated in this event were the RPS and the inboard PCIS Valve Group 2. Both of these safety systems actuated automatically per design. No high pressure Emergency Core Cooling Systems (ECCS) actuated, nor were any required to actuate in this event.

TEXT: PAGE: 5 of 7

D. CAUSE OF EVENT:

1. Immediate Cause:

The immediate cause of this event was a full RPS actuation resulting from three of four inboard MSIVs (1B21-F022B, C, and D) drifting to less than 90% full open.

2. Root/Intermediate Cause:

The intermediate cause of this event was a loss of motive force to the MSIV operators. The MSIVs are held open by a pressurized gas, either air or nitrogen, through the drywell pneumatics system. Prior to this event, the drywell pneumatic system had been aligned such that it was being supplied by the instrument air system. This alignment had been properly established during reactor shutdown in accordance with data package four of procedure 34SO-P70-001-1S, "Drywell Pneumatic System". Also during the shutdown period, an equipment clearance (1-88-337) was implemented

(as a personnel safety measure) to minimize the potential for nitrogen admission to the drywell. The clearance established administrative controls to maintain the instrument air supply isolation valves open and to maintain the inboard nitrogen supply isolation valves closed. The outboard nitrogen supply valves, although properly closed per procedure 34SO-P70-001-1S, were not included in the equipment clearance.

During reactor startup on 5/20/88, clearance 1-88-337 was properly restored. However, since the outboard nitrogen supply valves were not included on the clearance, they were not reopened. As a result, both instrument air and nitrogen were isolated from the drywell pneumatic system. Since the MSIVs require either air or nitrogen pressure to keep them open, the lack of these pressure sources caused the MSIVs to close, per design.

TEXT: PAGE: 6 of 7

The root cause of this event was a lack of clarity in procedure 34SO-OPS-001-1S, "Plant tartup". Specifically, the startup procedure did not explicitly require that swapping drywell pneumatic supply from instrument air to nitrogen be done in accordance with data package five of procedure 34SO-P70-001-1S as well as restoration of any clearances which may be outstanding against the system.

E. ANALYSIS OF EVENT:

The reactor protection system automatically initiates a reactor scram to ensure the radioactive materials barriers (such as fuel cladding and pressure system boundary) are maintained and to mitigate the consequences of accidents (such as a Loss of Coolant Accident-LOCA).

The MSIV closure scram is provided to limit the release of fission products from the nuclear system. Automatic closure of the MSIVs can be initiated as a result of various conditions. One of these is a steam line break. Immediate shutdown of the reactor is appropriate in such a situation.

The MSIVs have position switches installed on the valves. These switches provide RPS trip signals. If the MSIVs were to suddenly close, this could cause a rapid pressure increase in the reactor vessel. This pressure increase would affect the reactor vessel (due to the pressure increase) and result in a positive reactivity insertion due to void collapse). The MSIV closure scram anticipates the neutron flux scram

and the high pressure scrams. In this event all of the three RPS scrams (MSIV closure, neutron flux and high pressure) were operable and the MSIV position scram functioned to terminate power production prior to the other variables (pressure and neutron flux) exceeding their trip setpoints.

Based on the above information, it is concluded that this event had no adverse impact on plant nuclear safety. Additionally, this analysis is applicable for other plant conditions. As such, it is not believed that the consequences of this event would not be more severe under other operating conditions.

TEXT: PAGE: 7 of 7

F. CORRECTIVE ACTIONS:

The corrective actions for this event included:

1. Licensed personnel restored nitrogen supply valves 1P70-F025A and 1P70-F025B to their proper position. This provides nitrogen to the Drywell Pneumatic System on 5/20/88, which in turn restored nitrogen to the MSIV's.
2. Procedure 34SO-P70-001-1S, Rev. 2, "Drywell Pneumatic System", was temporarily revised on 5/20/88 to clarify what actions are to be taken when swapping from nitrogen to instrument air and vice versa. The temporary change also deleted the requirement to close the outboard isolation valves, 1P70-F025A and 1P70-F025B, when swapping from nitrogen to instrument air. This alleviates the need to open these valves when swapping from instrument air to nitrogen while still providing adequate personnel safety. A permanent revision will be made to procedure 34SO-P70-001-1S with estimated completion date of July 20, 1988.
3. Procedure 34SO-OPS-001-1S, Rev. 8, "Plant Startup", was temporarily revised by on 5/20/88 to add the requirement to restore the Drywell Pneumatic System to its normal nitrogen supply using the system operating procedure, 34GO-P70-001-1S. A permanent revision to procedure 34SO-OPS-001-1S has an estimated completion date of July 20, 1988.

G. ADDITIONAL INFORMATION:

1. Failed Component(s) Identification:

There was no component failure experienced in this event.

2. Previous Similar Events:

No previous similar events were noted.

ATTACHMENT # 1 TO ANO # 8806270323 PAGE: 1 of 2

Georgia Power Company
333 Piedmont Avenue
Atlanta, Georgia 30308
Telephone 404 526-6526

Mailing Address:
Post Office Box 4545
Atlanta, Georgia 30302

Nuclear Operations Department

SL-4827
0327I
X7GJ17-H310
June 20, 1988

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

PLANT HATCH - UNIT 1
NRC DOCKET 50-321
OPERATING LICENSE DPR-57
LICENSEE EVENT REPORT
LACK OF PROCEDURAL CLARIFICATION
RESULTS IN REACTOR SCRAM

Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(iv), Georgia Power Company is submitting the enclosed Licensee Event Report (LER) concerning the unanticipated actuation of some Engineered Safety Features (ESFs). This event occurred at Plant Hatch - Unit 1.

Sincerely,
/s/ W. G. HAIRSTON, III
W. G. Hairston, III

Senior Vice President

GC/ct

Enclosure: LER 50-321/1988-009

c: (see next page)

ATTACHMENT # 1 TO ANO # 8806270323 PAGE: 2 of 2

Georgia Power

U. S. Nuclear Regulatory Commission

June 20, 1988

Page Two

c: Georgia Power Company

Mr. J. T. Beckham, Jr., Vice President - Plant Hatch

Mr. L. T. Gucwa, Manager Nuclear Safety and Licensing

GO-NORMS

U. S. Nuclear Regulatory Commission, Washington, D. C.

Mr. L. P. Crocker, Licensing Project Manager - Hatch

U. S. Nuclear Regulatory Commission, Region II

Dr. J. N. Grace, Regional Administrator

Mr. P. Holmes-Ray, Senior Resident Inspector - Hatch

*** END OF DOCUMENT ***
